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ORO-FACIAL TRAUMA – AWARENESS AMONGST SPORTS INSTRUCTORS AND PLAYERS AGED 8 TO 18 YEARS

Dr. Sunaina .S. Pamnani [1] | Dr. Jyothsna V Setty [2] | Dr. Ila Srinivasan [3] | Dr. Dandamudi Lalitya [1]

[1] Post Graduate Student, Department of Pediatric Preventive Dentistry, M .R. Ambedkar Dental College and Hospital, Bengaluru.

[2] Professor, Department of Pediatric Preventive Dentistry, M .R. Ambedkar Dental College and Hospital, Bengaluru.

[3] Professor and Head, Department of Pediatric Preventive Dentistry, M .R. Ambedkar Dental College and Hospital, Bengaluru.

ABSTRACT

Objectives: To evaluate the knowledge and awareness of sports instructors and players aged between 8 to 18 years about facial trauma and protective devices.

Methods: A self completion questionnaire was handed over to twenty instructors and two hundred players with different set of questions, involved in various sports activities like taekwondo, karate, boxing, cricket, basketball, skating etc. from various sports academies in Bangalore.

Results: The results showed lack of knowledge amongst players and negligence regarding the use of protective devices whereas the sports instructors were well informed but did not recommend the use of these devices in their daily practices. Approximately 99% of the sport players and 95% of sports instructors agreed that sports related oro-facial injuries are common and it affects esthetics and psychology. Despite being instructed about the use of mouthguards only 28% of sports players were actually found incorporating it in their daily practice.

Conclusion: The prevalence and severity of injuries to the teeth, jaws and intra-oral and peri-oral soft tissues, concussions and neck injuries are prevented with the use of mouth guards. Despite their awareness, only 28% of players used mouth guards. Instructors were unaware about dentists being the specialist for fabrication of mouthguards.

KEYWORDS: Oro-facial trauma, Oro-facial protective devices, Mouth guards, Knowledge, Awareness.

INTRODUCTION:

Participation by youth in various sports activities is an increasing trend in the present day. The risk of oro-facial injuries are the result of such activities. The peak age groups with highest risk of trauma are 8-11 years, which accounts for 19.2% to 36% of all injuries[1]. The prevalence of oro-facial injuries varies depending on the type of sport played, the degree of contact, age, gender and geographical location of the subject studied.

Utmost care of dentition during this age group is must as the dentition is not completely formed which could affect the child's oro-facial growth, esthetics, psychology and have an impact on parental economy. Sports related oro-facial injuries can be life threatening in nature therefore it should be mandated to use protective devices for limiting oro-facial injuries.

Protective devices help to depreciate the likelihood of trauma to the head and face. However, a high rate of dental trauma and minimal utilization of mouth guards has been reported by sports persons, in spite of having adequate information about its usage[2]. Hence it is essential to assess the knowledge and attitude of sports players as well as coaches about facial trauma and devices available for prevention of the same.

As there is paucity of data in the literature regarding the same, the present study was carried out to evaluate the knowledge and awareness of sports instructors and players aged between 8 to 18 years about facial trauma and protective devices.

MATERIALS AND METHODS:

This was an analytical questionnaire based study conducted in the Department of Pediatric and Preventive Dentistry, M. R. Ambedkar Dental College and Hospital, Bengaluru by a single operator. An ethical clearance was obtained from the institutional Review Board and Ethics Committee (Ref: No. MRADC & H/ECIRB/0827/2016-17).

METHODOLOGY:

The subjects were informed about the purpose of the study, and a written informed consent was obtained from the sports instructors and the parents of the sports players with video recording of the same.

The total sample of 20sports instructors (n=20) and 200 sports players (N=200) involved in various contact sports from sports academics located in Bengaluru city, was arrived at based on convenience sampling technique. A questionnaire type proforma consisting of both open and close ended questions was distributed among them. Anonymity of the players was maintained. The questionnaire was designed to assess the knowledge about injuries caused due to contact sports and devices available for prevention of the same.

The data was subjected to statistical analysis using SPSS (Statistical Package for Social Sciences) Version 20.1 (Chicago, USA Inc.) and results expressed in terms of means percentages.

RESULTS AND DISCUSSION:

The mean age of the sports players was 14.13 ± 3.13 years and that of the sports instructors was 33.80 ± 6.57 years. Most of sports instructors had more than 5 years of teaching experience. Approximately 99% of the sports players and 95% of sports instructors agreed to the fact that sports related oro-facial injuries are common and it affects esthetics and psychology (see **Table 1** and **2**).

Table 1: Frequency distribution of responses to questions by sports players

Do sports activities that you are involved in cause injuries to head, face or teeth (dental trauma)?		
Response	**n**	**%**
Yes	198	99.0%
No	2	1.0%

Table 2: Frequency distribution of responses to questions by sports instructors

Do sports activities supervised by you cause injuries to head, face or teeth (dental trauma)?		
Response	**N**	**%**
Yes	19	95
No	1	5

Fifty – five percent of the instructors reported collision with another player as the most common cause of oro-facial injury. About 92.5% of the sports players and 100% of the sports instructors were aware of protective devices available (see **Figure 1**). Mixed Martial Arts (20%) and Boxing (19.5%) were considered the most common sports causing oro-facial injuries as per the sports players whereas according to sports instructors Mixed Martial Arts (MMA) and Cricket (25%) was the most common (see **Figure 2** and **3**). Nearly 95% of the sports instructors instruct their players to use mouthguards whereas only 28% of the players were actually reported using them regularly. About 76% of sports players were aware about the availability of mouthguards at the sports shop whereas only 5.5% of them knew that dentist is the appropriate specialist to approach for custom

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mouthguards. On the contrary none of sports instructors were aware about the availability of mouthguards at the dentist (see **Figure 4**).

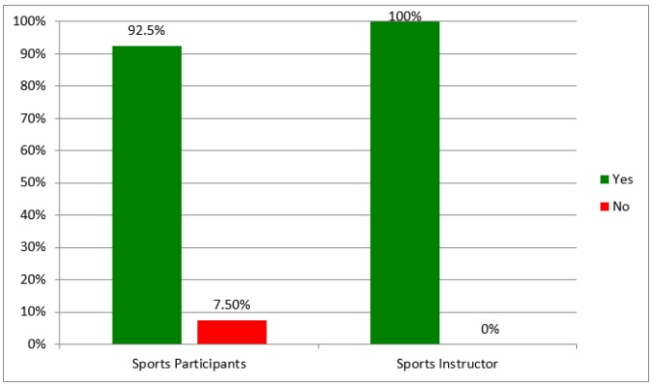

Figure 1: Awareness about protective devices among sports players and instructor

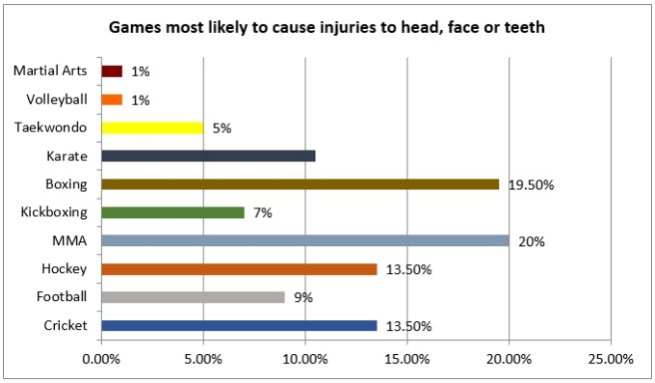

Figure 2: Games most likely to cause injuries to head, face or teeth according to sports players

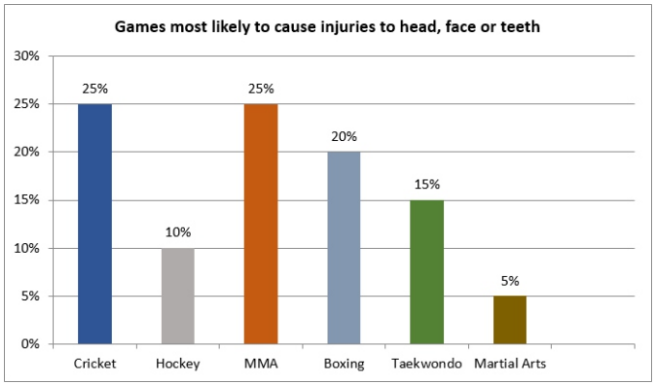

Figure 3: Games most likely to cause injuries to head, face or teeth according to sports instructor

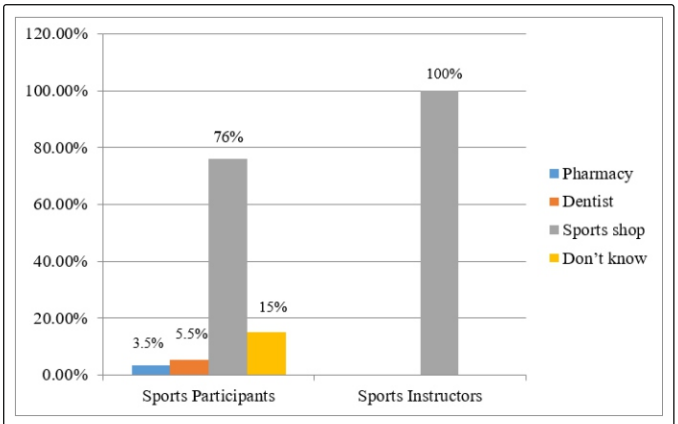

Figure 4: Awareness about availability of mouthguards among both the groups.

DISCUSSION:

In India the reported prevalence of orofacial injuries ranges from 4-35% amongst the adolescents[3,4] as against the prevalence of 15-35% reported in other countries[5,6]. Out of this, the sports related injuries account for one of the major etiological factors (18.1%) for oro-facial injuries[7,8]. These results indicate that there is some dearth in the implementation of protective measures to prevent sports related orofacial injuries. Of all the protective measures, mouth guards play a major role in reducing the sports related oro-facial injuries[9].

The mouth guard is a resilient device placed in the mouth to reduce injuries, particularly to the teeth and surrounding structures. Mouth guards distribute the impact of a "blow", lessening the chances of injury and are generally made from Ethylene Vinyl Acetate (EVA). The use of mouth guards is highly recommended as it is non-toxic, has minimal moisture absorption, elastic and ease of manufacture[10].

The Academy for Sports Dentistry (ASD) "recommends the use of custom fabricated mouth guard made over a dental cast and delivered under the supervision of a dentist. The ASD strongly supports and encourages a mandate for use of a properly fitted mouth guard in all collision and contact sports[11].

Studies conducted in Hawaiian[12], Australian[13] and American population have shown reduced oro-facial injuries with the use of mouth guards[14]. Several countries have made the use of mouth guards mandatory during contact and non-contact sports[15]. In India there are no such rules mandating the use of mouth guard in sports. This might be one of the reasons for ignorance towards strict use of protective devices and increased prevalence of sports related oro-facial injuries[16].

Mixed Martial Arts (MMA) was considered to be the most common cause of oro-facial injury in the present study. Boxing and hockey were considered second most common causes of such injuries which is in accordance to the earlier studies[17,18]. Studies have shown that although the sports teachers have adequate knowledge of protective devices only a few imply it in their regular practice[17,19]. In the present study 95% of the sports instructors recommend the use of mouthguards. Only 28% of the sports players used mouthguards during their involvement in various contact sports. Majority said that the reason for not using was difficulty in speaking and breathing. Other reason was lack of knowledge regarding the availability of the device. Dentists are the specialists for fabrication of mouthguard and to enlighten sports person, sports teachers and parents regarding the benefits of use of mouthguard. Only 5% of the sports players were aware about dentist being the specialist. Despite being aware about such devices, it was surprising that the sports instructors were unaware about custom fabricated mouthguards and its availability.

Sports teachers play an integral role in creating awareness and educating the sports players and parents regarding the use and availability of these protective devices. Hence it is of utmost importance that their knowledge is updated. Pediatric and Preventive dentists can come forward and make use of this opportunity to educate the children and their parents during their routine dental visits regarding the risk of oro-facial injuries and the protective devices available for the same in the form of pamphlets, animated educational videos and by use of educational models.

Protective devices should be made mandatory in sports by the respective governing sports authorities in India in order to reduce the risk of oro-facial injuries and there is a need to bring about a change in the attitude of players, parents and sports instructors towards their use.

CONCLUSION:

Majority of the sports players and instructors were aware about the oro-facial injuries and the role of mouthguards in preventing the same but there is an inadequacy in their use of them. Also there is lack of awareness about the availability of these devices among both the groups. Mandating the use of protective devices in sports specially contact sports can help reduce the incidence of oro-facial injuries.

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